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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/662,929	09/15/2000	Dean L. Putt	A148 1241	3538
7590	12/03/2003		EXAMINER	
Womble Carlyle Sandridge & Rice PLLC Attn D Scott Sudderth PO Box 725388 Atlanta, GA 31139-9388			POE, MICHAEL I	
			ART UNIT	PAPER NUMBER
			1732	

DATE MAILED: 12/03/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	09/662,929	PUTT ET AL.
	<b>Examiner</b>	<b>Art Unit</b>
	Michael I Poe	1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

1)  Responsive to communication(s) filed on 24 July 2002.

2a)  This action is **FINAL**.                            2b)  This action is non-final.

3)  Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

4)  Claim(s) 1-57 is/are pending in the application.  
4a) Of the above claim(s) 35-57 is/are withdrawn from consideration.  
5)  Claim(s) \_\_\_\_\_ is/are allowed.  
6)  Claim(s) 1-34 is/are rejected.  
7)  Claim(s) \_\_\_\_\_ is/are objected to.  
8)  Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

9)  The specification is objected to by the Examiner.

10)  The drawing(s) filed on 15 September 2000 is/are: a)  accepted or b)  objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)  The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

12)  Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a)  All b)  Some \* c)  None of:  
1.  Certified copies of the priority documents have been received.  
2.  Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3.  Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.

13)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a)  The translation of the foreign language provisional application has been received.

14)  Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

1)  Notice of References Cited (PTO-892) 4)  Interview Summary (PTO-413) Paper No(s). \_\_\_\_ .  
2)  Notice of Draftsperson's Patent Drawing Review (PTO-948) 5)  Notice of Informal Patent Application (PTO-152)  
3)  Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4.8 . 6)  Other: \_\_\_\_ .

## DETAILED ACTION

### ***Election/Restrictions***

1. Applicant's election without traverse of Group I, claims 1-34, in Paper No. 7 is acknowledged.
2. Claims 35-57 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Election was made **without** traverse in Paper No. 7.

### ***Double Patenting***

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 1-12 and 16-34 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 6, 15, 16, 19-20, 22, 25-41, 47 and 48 of U.S. Patent No. 6,443,258 B1 in view of U.S. Patent No. 4,613,627 (Sherman et al.).

**Claims 1-12 and 16-34**

The claims of U.S. Patent No. 6,443,258 B1 teach a process for producing (creating) an acoustically absorbent porous panel (forming pores within the foamed cementitious material) including dry mixing cement, filler such as calcium silicate, and fibers to form a dry mix (adding calcium silicate to the dry mix); aqueous mixing water and surfactant to create a diluted surfactant solution; mixing the dry mix with a diluted surfactant solution to form a foam slurry; aerating (combining and mixing) a foam slurry (foam or diluted surfactant solution, air and dry ingredients or dry mix to form a foamed cementitious material) comprised of between about 53% to about 68% by weight cement, between about 17% to about 48% by weight water, between about 0.05% to about 5% by weight fibers and between about 0.01% to about 10% by weight surfactant; and drying the aerated foam slurry (foamed cementitious slurry) to a moisture content of less than 5% by weight water (the foamed cementitious material is dried to at least 5% or less moisture) and a density of between about 10 lbs/ft<sup>3</sup> and about 40 lbs/ft<sup>3</sup> (claims 16, 30, 32, 34-36 and 48). The claims of U.S. Patent No. 6,443,258 B1 further teach that the temperature of the diluted surfactant solution (aqueous mixture) is maintained (regulated) between about 41°F to about 168°F, more specifically about 68°F to about 92°F (about 100°F) (claims 38 and 39). The claims of U.S. Patent No. 6,443,258 B1 further teach that the thickness of the panel is between about 0.25 inches to about 1 inch (gauging the thickness of the foamed cementitious material and the thickness of the foamed cementitious material is gauged to least 0.25 inches) (claim 40). The claims of U.S. Patent No. 6,443,258 B1 further teach that panel can be cut with a conventional utility knife (cutting the panel) (claim 47). The claims of U.S. Patent No. 6,443,258 B1 further teach that the panel including a dense skin comprising less than 2% of the total thickness of the panel formed on both surface s of the panel (forming a dense skin on both a facing side and backing side of the panel wherein the dense skin comprises less than 2% of the total thickness of the panel) (claim 15). The claims of U.S. Patent No. 6,443,258 B1 further teach that the slurry further comprises about 1% to about 10% by weight of the filler (the calcium silicate comprises about 1% to about 10% by weight of the foamed cementitious material) (claim 31). The claims of U.S. Patent No. 6,443,258 B1 further teach that the porous panel has pores with an average diameter

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between about 1.5 mm and about 50  $\mu\text{m}$  (about 40  $\mu\text{m}$ ); with an average size from about 40  $\mu\text{m}$  (about 50  $\mu\text{m}$ ) to about 200  $\mu\text{m}$ ; and that are open to other pores creating pathways through the cementitious material whereby sound can effectively be absorbed (claims 19 and 20). The claims of U.S. Patent No. 6,443,258 B1 further teach that the porous panel may be an acoustic ceiling tile having a Noise Reduction Coefficient of at least 0.5, preferably at least 0.7; a scratch resistance test result of at least 12; an indent of less than 0.12 inches; a sag test result of less than 0.15 inches at 90% RH; and a range for the Sound Transmission Coefficient of about 30 to about 40 (claims 25-28 and 41). The claims of U.S. Patent No. 6,443,258 B1 further teaches that the cement is selected from the group consisting of gypsum cement, Portland cement, sorrel cement, slag cement, fly ash cement, calcium alumina cement, and mixtures thereof (claims 6 and 33). The claims of U.S. Patent No. 6,443,258 B1 further teach the step of applying an organic coating to a facing side of the panel (claim 37). The claims of U.S. Patent No. 6,443,258 B1 further teach that the fibers are synthetic organic fibers selected from the group consisting of polyester, polyamide, and polyolefin (the fibers are polyester fibers) (claim 22). The claims of U.S. Patent No. 6,443,258 B1 further teach that the preferred composition of the foamed cementitious material comprises on a wet basis about 56% to about 61% by weight cement, between about 32% to about 42% by weight water, between about 0.28% to about 1.3% by weight fibers and between about 0.7% to about 2% by weight surfactant (claim 29).

Although the claims of U.S. Patent No. 6,443,258 B1 teach the basic claimed process, the claims of U.S. Patent No. 6,443,258 B1 do not specifically teach that the dry ingredients are dispensed and conveyed prior to mixing; that the process is continuous and uses a conveyor; that the foamed cementitious material is dispensed onto the conveyor; texturing the foamed cementitious material and texturing the dried foamed cementitious material. However, Sherman et al. teach a process for the manufacture of shaped fibrous products including introducing water, binder, and foaming agent into a vat to form an aqueous foam solution; feeding a metered amount of air into the aqueous foam solution to form a foamed component; separately feeding a fiber component and optionally clay, gypsum, perlite and the like to a solids feed belt to form a quantity of admixed solids (dispensing and conveying dry cement

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and dispensing and conveying dry fibrous material); admixing the foamed component into the admixed solids in a mixer to form a furnish; dropping the furnish onto a moving belt (the process is continuous and uses a conveyor; dispensing the foamed cementitious material onto the conveyor); forming the furnish into a board; setting the board by drying; after the basic board is formed, texturing the board with a texturing roll (texturing the foamed cementitious material) and/or coating the board with polyvinylacetate in the standard manner (applying an organic coating to the facing side of the panel); and subjecting the dried board to additional steps such as trimming, punching, coating and the like as was known in the art (texturing the dried foamed cementitious material) (column 5, line 49 - column 6, line 65; column 7, lines 11-13). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made and one of ordinary skill would have been motivated to use a continuous forming process in the process of the claims of U.S. Patent No. 6,443,258 B1 as taught by Sherman et al. to provide substantial reductions in water requirements as well as substantial energy savings in the drying operation (see abstract of Sherman et al.).

5. Claim 13 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 6, 15, 16, 19-20, 22, 25-41, 47 and 48 of U.S. Patent No. 6,443,258 B1 in view of U.S. Patent No. 4,613,627 (Sherman et al.) and either U.S. Patent No. 4,940,629 (Weber et al.) or U.S. Patent No. 5,753,718 (Jacks).

### **Claim 13**

The discussion of Sherman et al. and of the claims of U.S. Patent No. 6,443,258 B1 as applied to claim 12 above applies herein.

Although the claims of U.S. Patent No. 6,443,258 B1 in view of Sherman et al. teach forming a skin on both the facing side and backing side of the panel, the claims of U.S. Patent No. 6,443,258 B1 in view of Sherman et al. do not specifically teach that the skin has a thickness of about 125  $\mu\text{m}$  to about 250  $\mu\text{m}$ . However, this limitation would have been obvious in view of Weber et al. and Jacks as set forth below.

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Weber et al. teach fiber reinforced thermoplastic integral skin foams having a density of 50-500 kg/m<sup>3</sup> and an outer skin 0.05 to 1.5 mm in thickness (e.g., 50 to 1500 µm) (the skin is between about 125 µm to about 250 µm thick) (abstract; column 1, lines 6-49). It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made and one of ordinary skill would have been motivated to form skins in the process of the claims of U.S. Patent No. 6,443,258 B1 in view of Sherman et al. having a thickness in the claimed range as taught by Weber et al. to provide a panel having improved properties such as improved retention of mechanical strength, improved stiffness, high surface quality, etc. (see specifically column 1, lines 26-40 of Weber et al.).

Jacks teaches a method for forming a low compression set fluoroelastomer polymer foam including compression molding a fluoroelastomer polymer foam such that an integral skin is formed wherein the pressure is adjusted to vary the thickness of the foam in order to meet cost, wear, permeability and strength requirements (column 5, line 46 - column 6, line 6). As such, Jacks obviously recognizes that the thickness of integral skins is a result effective variable in compression molding processes. Since the thickness of integral skins in compression molding processes is a result effective variable as evidenced by Jacks, one of ordinary skill in the art would have obviously determined the optimum panel thickness in the process of the claims of U.S. Patent No. 6,443,258 B1 in view of Sherman et al. through routine experimentation based upon the desired cost, wear, permeability and strength requirements of the resulting panel.

6. Claims 14 and 15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 6, 15, 16, 19-20, 22, 25-41, 47 and 48 of U.S. Patent No. 6,443,258 B1 in view of U.S. Patent No. 4,613,627 (Sherman et al.) and U.S. Patent No. 2,189,889 (Engel).

#### **Claims 14 and 15**

The discussion of the claims of U.S. Patent No. 6,443,258 B1 and of Sherman et al. as applied to claim 12 above applies herein.

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Although the claims of U.S. Patent No. 6,443,258 B1 in view of Sherman et al. teach forming a skin on both the facing side and backing side of the panel, the claims of U.S. Patent No. 6,443,258 B1 in view of Sherman et al. do not specifically teach the step of removing the dense skin of the facing side of the panel and that the step of removing the dense skin of the facing side includes sanding. However, Engel teaches a method for forming a foamed plant pot or the like composed of synthetic resin including molding an intimate foam mixture under heat and pressure or by die casting to the desired shape such that a pressing skin is formed and removing the pressing skin by any suitable manner such as by abrasion preferably with a sand blast, sanding, on a lathe or by any other means (the step of removing the dense skin from the facing side of the panel; the step of removing the dense skin of the facing side includes sanding) (page 1, column 2, lines 20-45; page 2, column 1, lines 2-13 and 43-52; page 3, column 1, line 119 - column 2, line 49). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made and one of ordinary skill would have been motivated to remove the formed skin in the process of the claims of U.S. Patent No. 6,443,258 B1 in view of Sherman et al. by sanding as taught by Engel to facilitate embellishing or decorating of the panel by removing glossy spots from the surface of the panel that would interfere with adherence of the decorating medium (see specifically page 3, column 1, line 119 - column 2, line 49 of Engel).

7. Claims 1-34 are directed to an invention not patentably distinct from claims 6, 15, 16, 19-20, 22, 25-41, 47 and 48 of commonly assigned U.S. Patent No. 6,443,258 B1. Specifically, the claims are not patentably distinct in view of the teachings of Sherman et al., Weber et al., Jacks and Engel for the reasons set forth above.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302). Commonly assigned U.S. Patent No. 6,443,258 B1, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee is required under 35

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U.S.C. 103(c) and 37 CFR 1.78(c) to either show that the conflicting inventions were commonly owned at the time the invention in this application was made or to name the prior inventor of the conflicting subject matter. Failure to comply with this requirement will result in a holding of abandonment of the application.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications filed on or after November 29, 1999.

8. Claims 1, 4-12, 16-19, 22-26 and 28-33 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4, 9, 11, 15, 16, 20, 24, 26-28 and 35 of U.S. Patent No. 6,613,424 B1 in view of U.S. Patent No. 4,613,627 (Sherman et al.).

**Claims 1, 4-12, 16-19, 22-26 and 28-33**

The claims of U.S. Patent No. 6,613,424 B1 teach an acoustically absorbent porous panel such as an acoustic ceiling tile (the panel is an acoustic ceiling tile) including a foamed cementitious layer formed from an uncured aqueous foamed cementitious material comprising on a wet basis about 53% to about 68% by weight cement (dry cement; dry ingredients), about 17% to about 48% by weight water, about 0.05% to about 5% by weight fibers (dry fibrous material; dry ingredients) and about 0.01% to about 10% by weight surfactant having a moisture content of the facing layer of less than 5% by weight water. (the foamed cementitious material is dried to at least 5% or less moisture); a density of between about 10 lbs/ft<sup>3</sup> and about 40 lbs/ft<sup>3</sup>; pores distributed with the cured material comprising about 75% to about 95% by volume of the layer (forming pores within the foamed cementitious material); a dense skin comprising less than 2% of the total thickness of the panel formed on both a facing side and a backing side of the panel; a Noise Reduction Coefficient of at least 0.5, preferably at least 0.7; a Hess rake scratch resistance test result of at least 12; a sag test result of less than 0.15 inches at 90% RH; and pores having an average size from about 50 µm to about 200 µm that are open to other pores creating pathways through the cementitious material whereby sound can effectively be absorbed (claims 1, 4, 15, 16, 24, 26, 28, 35). The claims of U.S. Patent No. 6,613,424 B1 further teach that the cementitious

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material further comprises about 1% to about 10% by weight of calcium silicate (adding calcium silicate to the dry mix; the calcium silicate comprises about 1% to about 10% by weight of the foamed cementitious material) (claim 9). The claims of U.S. Patent No. 6,613,424 B1 further teaches that the cement is selected from the group consisting of gypsum cement, Portland cement, sorrel cement, slag cement, fly ash cement, calcium alumina cement, and mixtures thereof (claim 11). The claims of U.S. Patent No. 6,613,424 B1 further teach that the fibers are synthetic organic fibers selected from the group consisting of polyester, polyamide, acrylic, rayon and polyolefin (the fibers are polyester fibers) (claim 20). The claims of U.S. Patent No. 6,613,424 B1 further teach that the preferred composition of the cementitious material comprises on a wet basis about 56% to about 61% by weight cement, between about 32% to about 42% by weight water, between about 0.28% to about 1.3% by weight fibers and between about 0.7% to about 2% by weight surfactant (claim 27).

Although the claims of U.S. Patent No. 6,613,424 B1 teach the basic claimed product of the process, the claims of U.S. Patent No. 6,613,424 B1 do not specifically teach the claimed method of manufacturing that claimed product. However, Sherman et al. teach a process for the manufacture of shaped fibrous products including introducing water, binder, and foaming agent into a vat to form an aqueous foam solution (aqueous mixing water and surfactant to create a diluted surfactant solution); feeding a metered amount of air into the aqueous foam solution to form a foamed component (aqueous mixing water, surfactant and air to create a foam); separately feeding a fiber component and optionally clay, gypsum, perlite and the like to a solids feed belt to form a quantity of admixed solids (dispensing and conveying dry cement and dispensing and conveying dry fibrous material; dry mixing cement and fibers or synthetic organic fibers to create a dry mix); admixing the foamed component into the admixed solids in a mixer to form a furnish (combining and mixing the foam and dry ingredients to form a foamed cementitious material; combining and mixing the diluted surfactant solution, air and dry mix to create a foamed cementitious material); dropping the furnish onto a moving belt (the process is continuous and uses a conveyor; dispensing the foamed cementitious material onto the conveyor); forming the furnish into a board (gauging the thickness of the foamed cementitious material); molding and cutting the board

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(cutting the panel); setting the board by drying (drying the foamed cementitious material to form an absorbent porous panel); and, after the basic board is formed, texturing the board with a texturing roll (texturing the foamed cementitious material) and/or coating the board with polyvinylacetate in the standard manner (applying an organic coating to the facing side of the panel) (column 5, line 49 - column 6, line 65). Sherman et al. further teach an example wherein the thickness of the formed board is 0.74 inches (the thickness of the foamed cementitious material is gauged to least 0.25 inches) (column 7, Example 1). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made and one of ordinary skill would have been motivated to use a continuous forming process to form the product of the claims of U.S. Patent No. 6,613,424 B1 as taught by Sherman et al. to provide substantial reductions in water requirements as well as substantial energy savings in the drying operation (see abstract of Sherman et al.).

9. Claim 13 is rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4, 9, 11, 15, 16, 20, 24, 26-28 and 35 of U.S. Patent No. 6,613,424 B1 in view of U.S. Patent No. 4,613,627 (Sherman et al.) and either U.S. Patent No. 4,940,629 (Weber et al.) or U.S. Patent No. 5,753,718 (Jacks).

### **Claim 13**

The discussion of the claims of U.S. Patent No. 6,613,424 B1 and of Sherman et al. as applied to claim 12 above applies herein.

Although the claims of U.S. Patent No. 6,613,424 B1 in view of Sherman et al. teach forming a skin on both the facing side and backing side of the panel, the claims of U.S. Patent No. 6,613,424 B1 in view of Sherman et al. do not specifically teach that the skin has a thickness of about 125  $\mu\text{m}$  to about 250  $\mu\text{m}$ . However, this limitation would have been obvious in view of Weber et al. and Jacks as set forth below.

Weber et al. teach fiber reinforced thermoplastic integral skin foams having a density of 50-500 kg/m<sup>3</sup> and an outer skin 0.05 to 1.5 mm in thickness (e.g., 50 to 1500  $\mu\text{m}$ ) (the skin is between about 125  $\mu\text{m}$  to about 250  $\mu\text{m}$  thick) (abstract; column 1, lines 6-49). It would have been prima facie obvious to one

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of ordinary skill in the art at the time the invention was made and one of ordinary skill would have been motivated to form skins in the process of the claims of U.S. Patent No. 6,613,424 B1 in view of Sherman et al. having a thickness in the claimed range as taught by Weber et al. to provide a panel having improved properties such as improved retention of mechanical strength, improved stiffness, high surface quality, etc. (see specifically column 1, lines 26-40 of Weber et al.).

Jacks teaches a method for forming a low compression set fluoroelastomer polymer foam including compression molding a fluoroelastomer polymer foam such that an integral skin is formed wherein the pressure is adjusted to vary the thickness of the foam in order to meet cost, wear, permeability and strength requirements (column 5, line 46 - column 6, line 6). As such, Jacks obviously recognizes that the thickness of integral skins is a result effective variable in compression molding processes. Since the thickness of integral skins in compression molding processes is a result effective variable as evidenced by Jacks, one of ordinary skill in the art would have obviously determined the optimum panel thickness in the process of the claims of U.S. Patent No. 6,613,424 B1 in view of Sherman et al. through routine experimentation based upon the desired cost, wear, permeability and strength requirements of the resulting panel.

10. Claims 14 and 15 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4, 9, 11, 15, 16, 20, 24, 26-28 and 35 of U.S. Patent No. 6,613,424 B1 in view of U.S. Patent No. 4,613,627 (Sherman et al.) and U.S. Patent No. 2,189,889 (Engel).

#### **Claims 14 and 15**

The discussion of the claims of U.S. Patent No. 6,613,424 B1 and of Sherman et al. as applied to claim 12 above applies herein.

Although the claims of U.S. Patent No. 6,613,424 B1 in view of Sherman et al. teach forming a skin on both the facing side and backing side of the panel, the claims of U.S. Patent No. 6,613,424 B1 in view of Sherman et al. do not specifically teach the step of removing the dense skin of the facing side of the panel and that the step of removing the dense skin of the facing side includes sanding. However,

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Engel teaches a method for forming a foamed plant pot or the like composed of synthetic resin including molding an intimate foam mixture under heat and pressure or by die casting to the desired shape such that a pressing skin is formed and removing the pressing skin by any suitable manner such as by abrasion preferably with a sand blast, sanding, on a lathe or by any other means (the step of removing the dense skin from the facing side of the panel; the step of removing the dense skin of the facing side includes sanding) (page 1, column 2, lines 20-45; page 2, column 1, lines 2-13 and 43-52; page 3, column 1, line 119 - column 2, line 49). It would have been prima facie obvious to one of ordinary skill in the art at the time the invention was made and one of ordinary skill would have been motivated to remove the formed skin in the process of the claims of U.S. Patent No. 6,613,424 B1 in view of Sherman et al. by sanding as taught by Engel to facilitate embellishing or decorating of the panel by removing glossy spots from the surface of the panel that would interfere with adherence of the decorating medium (see specifically page 3, column 1, line 119 - column 2, line 49 of Engel).

11. Claims 1, 4-19, 22-26 and 28-33 are directed to an invention not patentably distinct from claims 1, 4, 9, 11, 15, 16, 20, 24, 26-28 and 35 of commonly assigned U.S. Patent No. 6,613,424 B1. Specifically, the claims are not patentably distinct in view of the teachings of Sherman et al., Weber et al., Jacks and Engel for the reasons set forth above.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302). Commonly assigned U.S. Patent No. 6,613,424 B1, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee is required under 35 U.S.C. 103(c) and 37 CFR 1.78(c) to either show that the conflicting inventions were commonly owned at the time the invention in this application was made or to name the prior inventor of the conflicting subject matter. Failure to comply with this requirement will result in a holding of abandonment of the application.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications filed on or after November 29, 1999.

12. Claims 1, 4-11, 16, 17, 19, 22-26, 28 and 33 are provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 1, 4, 8, 29-31 and 33-34 of either copending U.S. Patent Application No. 10/384,240 or U.S. Patent Publication No. 2003/0178250 A1 (here forth Putt et al.) in view of U.S. Patent No. 4,613,627 (Sherman et al.).

**Claims 1, 4-11, 16, 17, 19, 22-26, 28 and 33**

The claims of Putt et al. teach an acoustically absorbent porous panel including a layer constructed from a substantially continuous open-celled porous material with interconnecting pores formed therein (forming pores within the foamed cementitious material; the pores are open to other pores creating pathways through the cementitious material whereby sound can be effectively absorbed) comprising a cured foamed cementitious material having a first face and a second face wherein the foamed cementitious material is formed from an aerated aqueous foam slurry (aqueous mixing water, surfactant and air to create a foam) comprising about 53% to about 68% by weight cement (dry cement; dry ingredients), about 17% to about 48% by weight water, about 0.05% to about 5% by weight synthetic organic fibers (dry fibrous material; dry ingredients) and about 0.01% to about 10% by weight surfactant; and wherein the second face has a substantially geometric pattern of depressions formed therein comprising 81% to approximately 90% of the layer by volume (texturing the foamed cementitious material) (claims 1, 8 and 29). The claims of Putt et al. further teach that the panel has a density of between about 10 lbs/ft<sup>3</sup> and about 40 lbs/ft<sup>3</sup> (claim 33) and a Noise Reduction Coefficient of at least 0.7 (a Noise Reduction Coefficient of the panel is at least 0.5; the Noise Reduction Coefficient of the panel is at least 0.7) (claim 4). The claims of Putt et al. further teach that the preferred composition of the aqueous foam slurry comprises on a wet basis about 54% (about 56%) to about 61% by weight cement, between about 32% to about 44% (about 42%) by weight water, between about 0.1% (about 0.28%) to

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about 3% (about 1.3%) by weight fibers and between about 0.5% (about 0.7%) to about 5% (about 2%) by weight surfactant (claim 30). The claims of Putt et al. further teach that the cement is selected from the group consisting of gypsum cement, Portland cement, sorrel cement, slag cement, fly ash cement, calcium alumina cement, and mixtures thereof (claim 31). The claims of Putt et al. further teach that the synthetic organic fibers are selected from the group consisting of polyester, polyamide, and polyolefin (the fibers are polyester fibers) (claim 34).

Although the claims of Putt et al. teach the basic claimed product of the process, the claims of Putt et al. do not specifically teach the claimed method of manufacturing that claimed product. However, Sherman et al. teach a process for the manufacture of shaped fibrous products such as an acoustical ceiling board (the panel is an acoustical ceiling tile) including introducing water, binder, and foaming agent into a vat to form an aqueous foam solution (aqueous mixing water and surfactant to create a diluted surfactant solution); feeding a metered amount of air into the aqueous foam solution to form a foamed component (aqueous mixing water, surfactant and air to create a foam); separately feeding a fiber component and optionally clay, gypsum, perlite and the like to a solids feed belt to form a quantity of admixed solids (dispensing and conveying dry cement and dispensing and conveying dry fibrous material; dry mixing cement and fibers or synthetic organic fibers to create a dry mix); admixing the foamed component into the admixed solids in a mixer to form a furnish (combining and mixing the foam and dry ingredients to form a foamed cementitious material; combining and mixing the diluted surfactant solution, air and dry mix to create a foamed cementitious material); dropping the furnish onto a moving belt (the process is continuous and uses a conveyor; dispensing the foamed cementitious material onto the conveyor); forming the furnish into a board (gauging the thickness of the foamed cementitious material); molding and cutting the board (cutting the panel); setting the board by drying (drying the foamed cementitious material to form an absorbent porous panel); and, after the basic board is formed, texturing the board with a texturing roll (texturing the foamed cementitious material) and/or coating the board with polyvinylacetate in the standard manner (applying an organic coating to the facing side of the panel) (column 5, line 49 - column 6, line 65; abstract). Sherman et al. further teach an example wherein the

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thickness of the formed board is 0.74 inches (the thickness of the foamed cementitious material is gauged to least 0.25 inches) and wherein the board has less than 3% by weight moisture at the end of the drying operation (the foamed cementitious material is dried to at least 5% or less moisture) (column 7, Example 1). Sherman et al. further teach that the board may include suitable fillers such as wollastonite (adding calcium silicate to the dry mix) (column 5, lines 10-14). It would have been *prima facie* obvious to one of ordinary skill in the art at the time the invention was made and one of ordinary skill would have been motivated to use a continuous forming process to form the product of the claims of Putt et al. as taught by Sherman et al. to provide substantial reductions in water requirements as well as substantial energy savings in the drying operation (see abstract of Sherman et al.).

This is a provisional obviousness-type double patenting rejection.

13. Claims 1, 4-11, 16, 17, 19, 22-26, 28 and 33 are directed to an invention not patentably distinct from claims 1, 4, 8, 29-31 and 33-34 of either commonly assigned U.S. Patent Application No. 10/384,240 or U.S. Patent Publication No. 2003/0178250 A1. Specifically, the claims are not patentably distinct in view of the teachings of Sherman et al for the reasons set forth above.

The U.S. Patent and Trademark Office normally will not institute an interference between applications or a patent and an application of common ownership (see MPEP § 2302). Either commonly assigned U.S. Patent Application No. 10/384,240 or U.S. Patent Publication No. 2003/0178250 A1, discussed above, would form the basis for a rejection of the noted claims under 35 U.S.C. 103(a) if the commonly assigned case qualifies as prior art under 35 U.S.C. 102(f) or (g) and the conflicting inventions were not commonly owned at the time the invention in this application was made. In order for the examiner to resolve this issue, the assignee is required under 35 U.S.C. 103(c) and 37 CFR 1.78(c) to either show that the conflicting inventions were commonly owned at the time the invention in this application was made or to name the prior inventor of the conflicting subject matter. Failure to comply with this requirement will result in a holding of abandonment of the application.

A showing that the inventions were commonly owned at the time the invention in this application was made will preclude a rejection under 35 U.S.C. 103(a) based upon the commonly assigned case as a

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reference under 35 U.S.C. 102(f) or (g), or 35 U.S.C. 102(e) for applications filed on or after November 29, 1999.

***Claim Rejections - 35 USC § 102***

14. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

15. Claim 34 is rejected under 35 U.S.C. 102(b) as being anticipated by U.S. Patent No. 4,613,627 (Sherman et al.).

**Claim 34**

Sherman et al. teach a process for the manufacture of shaped fibrous products such as an acoustical ceiling board including introducing water, binder, and foaming agent into a vat to form an aqueous foam solution; feeding a metered amount of air into the aqueous foam solution to form a foamed component (aqueous mixing water, surfactant and air to create a foam); separately feeding a fiber component and optionally clay, gypsum, perlite and the like to a solids feed belt to form a quantity of admixed solids (dispensing and conveying dry cement and dispensing and conveying dry fibrous material); admixing the foamed component into the admixed solids in a mixer to form a furnish (combining and mixing the foam and dry ingredients to form a foamed cementitious material comprising cement, water, fibers, and surfactant); dropping the furnish onto a moving belt; forming the furnish into a board; molding and cutting the board; setting the board by drying (drying the foamed cementitious material to form an absorbent porous panel); after the basic board is formed, texturing the board with a texturing roll (texturing the foamed cementitious material) and/or coating the board with polyvinylacetate in the standard manner; and subjecting the dried board to additional steps such as trimming, punching, coating and the like as was known in the art (texturing the dried foamed cementitious material) (column 5, line 49 - column 6, line 65; column 7, lines 11-13).

***Allowable Subject Matter***

16. The subject matter of claims 1-33 is allowable over the prior art of record; however, claims are currently rejected and provisionally rejected under the judicially created doctrine of obviousness-type double patenting. As such, claims 1-33 are not currently allowable in the instant application. However, claims 1-33 would be allowable if the applicant filed terminal disclaimers in the instant application over each of U.S. Patent No. 6,443,258 B1, U.S. Patent No. 6,613,424 B1 and U.S. Patent Application No. 10/384,240 and the applicant provided a showing that all of the conflicting inventions were commonly owned at the time this application was made.

17. The following is a statement of reasons for the indication of allowable subject matter:

- (1) Claims 1 and 33 of the instant application include all of the limitations of allowed claim 30 of U.S. Patent No. 6,443,258 B1 plus additional limitations not included in allowed claim 30 of U.S. Patent No. 6,443,258 B1; therefore, claims 1 and 33 are narrower in scope than allowed claim 30 of U.S. Patent No. 6,443,258 B1. Since claims 1 and 33 of the instant application are simply narrower in scope than claim 30 of U.S. Patent No. 6,443,258 B1, claims 1-28 and 33 of the instant application are allowable for the reasons of record in the previous application with regard to claim 30 of U.S. Patent No. 6,443,258 B1.
- (2) The method of claim 29 of the instant application includes all of the product limitations of the allowed product of claim 41 of U.S. Patent No. 6,443,258 B1 plus additional product limitations not included in allowed claim 41 of U.S. Patent No. 6,443,258 B1; therefore, the product made according to method claim 29 is simply narrower in scope than the product of allowed claim 41 of U.S. Patent No. 6,443,258 B1. Although the method of claim 29 is generally known in the art, there is no suggestion or motivation to use this method to form the non-obvious product set forth in claim 41; therefore, claims 29-32 of the instant application are allowable for the reasons of record in the previous application

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with regard to claim 41 of U.S. Patent No. 6,443,258 B1. See *In re Ochiai*, 71 F.3d 1565, 37 USPQ2d 1127 (Fed. Cir. 1995) and *In re Brouwer*, 77 F.3d 422, 37 USPQ2d 1663 (Fed. Cir. 1996).

### ***Conclusion***

18. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. U.S. Patent No. 3,929,947 (Schwartz et al.), U.S. Patent No. 4,127,751 (Kinoshita), U.S. Patent No. 4,504,555 (Prior et al.), U.S. Patent No. 4,676,937 (Brown et al.) and U.S. Patent No. 5,962,107 (Lowery et al.) have been cited of interest to show the state of the art at the time the invention was made.

19. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael I Poe whose telephone number is (703) 306-9170. The examiner can normally be reached on Monday through Friday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Colaianni can be reached on (703) 305-5493. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9310.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-1234.



Michael Poe/mip



MICHAEL COLAIANNI  
PRIMARY EXAMINER